REMARKS

Entry of this amendment and reconsideration are requested.

Applicant's representative appreciates the courtesies extended during the interview conducted with the Examiner on December 18, 2006. The outstanding rejection, distinctions from the Soliman patent, and claim interpretation were discussed. The Examiner urged the undersigned to amend the claims to more particularly describe those differences. The above amendments to the claims do just that.

Claims 1, 3-5, 8, 9, 12-14, 16, 18-21, 24, 25-28, 30-36 stand rejected under 35 U.S.C. §102 as being anticipated over U.S. Patent 6,356,531 to Soliman. This rejection is respectfully traversed.

To establish that a claim is anticipated, the Examiner must point out where each and every limitation in the claim is found in a single prior art reference. *Scripps Clinic & Research Found. v. Genentec, Inc.*, 927 F.2d 1565 (Fed. Cir. 1991). Every limitation contained in the claims must be present in the reference, and if even one limitation is missing from the reference, then it does not anticipate the claim. *Kloster Speedsteel AB v. Crucible, Inc.*, 793 F.2d 1565 (Fed. Cir. 1986). Soliman fails to satisfy this rigorous standard.

By using different frequency reuse values for different types of radio channels, the inventors achieve lower inter-cell interference and improved services for mobiles at cell borders. For a HS-DSCH channel, that lower lower inter-cell interference is achieved by

employing a frequency reuse greater than one. This is particularly beneficial because such a "big" downlink channel uses a significant amount of total downlink power transmitted from each cell. This reduction in interference between cells achieved allows for higher data rates at the cell border. On the other hand, other types of channels, like dedicated channels, use a frequency reuse of one so that soft handover can be used.

Soliman relates to uplink load estimation in a CDMA network and describes a method for estimating the load L (roughly speaking, the number of users, taking their transmission activity into account) in a cell based on quantities available in the base station. In the described calculations, a quantity "frequency reuse efficiency" is used, ranging from 0 to 1, with an initial estimate being 0.66. See col. 7, line 15. Soliman defines "frequency reuse efficiency" as a ratio of interference values in equation (7) (F_k = "the interference from units within the cell" over "total interference from all cells"). "Frequency reuse efficiency" is alternatively defined in equations (11) or (13) as a ratio of sector power to total power absent thermal noise. Neither definition is even remotely related to how the term frequency reuse is used in this application and would be understood by a person of ordinary skill in the cellular communications art.

Page 5, lines 1-19 of this instant specification explain frequency reuse as follows:

> In frequency reuse, the same carrier frequencies are used in multiple, geographically different areas for which the system provides coverage. Significantly, these areas are separated from one another by a sufficient distance so that any co-channel or adjacent channel interference is less than a particular threshold. Fig. 7A shows a cellular system with a

> frequency reuse of one, i.e., the same carrier frequency f_1 is used in all cells. This is the case in CDMA-based cellular systems like CDMA 2000 and wideband CDMA. A frequency reuse of one means that the entire available frequency band is available in each cell. The entire available frequency band is represented symbolically in Fig. 7A as f_1. However, that frequency band could be divided into, e.g., three subbands f_1, f_2, and f_3, and in that case, every cell transmits over all three subbands...Fig. 7B shows an example frequency reuse equal to three. Both of the examples of Fig. 7A and Fig. 7B are somewhat simplified in the sense that the uplink and the downlink typically use different carrier frequencies. Thus, f_i may be interpreted as a pair of frequencies $[f_{UL,i}, f_{DL,i}]$.

The Examiner is strongly urged to review Figures 7A and 7B of this application to visualize the different example frequency reuses.

A frequency reuse value indicates which frequencies can be used in different cells. A frequency reuse of 1 means that all cells use all frequencies, whereas frequency reuse values larger than 1 mean that not all frequencies are used in all cells. Thus, frequency reuse is a cell planning property rather than an uplink load estimation technique which is what Soliman is about.

Different "frequency reuse efficiencies" in Soliman are not the same as different frequency reuses as used in this application. Soliman's "frequency reuse efficiency," being the ratio between interference from terminals within the cell to the total interference in the cell, does not indicate which frequencies are used in different cells. Accordingly, Soliman's "frequency reuse efficiency" is simply not relevant to the "frequency reuse" term used in the pending claims.

No where does Soliman describe transmission/reception of different channels with different frequency reuses. Indeed, the background text in Soliman actually assumes just a single frequency reuse of one, which is the typical case for "classical" CDMA systems. See column 1, lines 16-22: “In a typical CDMA wireless communication system, a first frequency band is used for forward channel communications (from the base station to the mobile station), while a second frequency band, different from the first frequency band, is used for reverse channel communications (from the mobile station to the base station).”

In contrast to Soliman, claim 1 is not directed to estimating uplink load. Rather, claim 1, recited below for convenience, describes a scheme where two different channels have different frequency reuse values.

> A method for use in cellular communications system having a first type of channel and a second type of channel different from the first type of channel, comprising:
>
> establishing a connection with a mobile radio in a first cell that includes the first type of channel being assigned a first frequency for a first uplink or downlink channel direction and the second type of channel being assigned a second different frequency for a second uplink or downlink channel direction, where the first and second uplink or downlink channel directions may be different or the same;
>
> associating a first frequency reuse for the first type of channel such that the first type of channel in the first uplink or downlink channel direction in a second cell adjacent to the first cell is assigned a third frequency different from the first and second frequencies, and
>
> associating a second frequency reuse for the second type of channel such that the second type of channel in the

> second uplink or downlink channel direction in the second cell adjacent to the first cell is assigned the second frequency,
>
> wherein one of the channels is a code division multiple access (CDMA) channel.

This combination of features is lacking in Soliman.

The Examiner suggests that the initially estimated value of 0.66 for Soliman's "frequency reuse efficiency" and an updated value of Soliman's "frequency reuse efficiency" correspond to the claimed first and second frequency reuses in claim 1. This reading is simply not reasonable. The Examiner cannot ignore how Soliman specifically defines the term "frequency reuse efficiency." As explained above, Soliman's "frequency reuse efficiency" is an interference or power ratio—not a frequency reuse value that describes which frequencies are used in different cells.

Nor is reasonable to suggest that "overhead messages" are a type of channel different than a wideband shared frequency channel. The former is a message carried on a channel, and the latter is channel. Messages are not channels. In short, Soliman lacks "associating a first frequency reuse for the first type of channel," and "associating a second frequency reuse for the second type of channel," as recited in claim 1. Similar distinctions are found in the other independent claims.

The Examiner rejects dependent claims 6, 7, 17, and 22 based on US 6,813,254 to Mujtaba combined with Soliman. This rejection is respectfully traversed.

Mujtaba describes code-division duplex to separate uplink and downlink transmissions, which is not related to assigning different channel reuses to different

channel types. Accordingly, Mujtaba fails to remedy the deficiencies noted above for Soliman.

The application is in condition for allowance. An early notice to that effect is earnestly solicited.

Respectfully submitted,

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